

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐				
Misidentified ☐	Past Due ☐	OTHER : _____			

Work Order ID 146305

May 17, 2016 10:20:08 AM

146305

Page 2

Item ID: D412-673-011 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Electric Step Adaptation
Start Date: 5/17/2016 Start Qty: 2.00 ***2*** Cust Item ID:
Required Date: 5/17/2016 Req'd Qty: 2.00 ***2*** Customer:
Reference: USED ON 145190 & 145189

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location:	0.00							
130									
Packaging	Memo	0.02							
Packaging	Location : FG120								
	<i>sold</i>								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.20							
Quality Control									

2x **MAY 17 2016**

MC5 **MAY 17 2016**

MF
16-5-17

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause			FAULT CATEGORY							
Environment ☐	☐	No Re-verification	☐	Pressure/Forced	☐	Temperature/Cure	☐	Power Loss/Surge	☐	Positioned Wrong
Design ☐	☐	Operator	☐	Bending	☐	Set-up	☐	Folio/Program	☐	Outside Dimensions
Doc/Data ☐	☐	Offset/Setup	☐	Centre Not Concentric	☐	BOM/Route	☐	Grain	☐	Over/Under tolerance
Equip/Tooling ☐	☐	Supplier	☐	Cracks	☐	Broken/Damage/Defect	☐	Weld	☐	Part Incorrect
Handling/Pre ☐	☐	Training	☐	Crimp/Kink/Ripple/Wave	☐	Inspection Incomplete/Unqualified	☐	Wrong Stock Pulled	☐	Part Lost/Missing
Material ☐	☐	Use for Testing	☐	Cuffs	☐	Contamination	☐	Out of Sequence	☐	Part Moved
Internal Transport ☐	☐	Poor Information	☐	Crushing	☐	Countersink	☐	Off-set	☐	Drawing
Tribal Knowledge ☐	☐	Rushing	☐	Heat Treat	☐	Cut Too Short	☐	Mislabeled	☐	Finish
LOA ☐	☐	Product Improvement	☐	Wave/Twist in Tube	☐	Instructions Incomplete/Unclear	☐	Fit/Function	☐	Misread
Substation ☐	☐	Process Improvement	☐	Marks/Chatter	☐	Drill Holes	☐	Misaligned/off center	☐	Turning Sequence
Past Expiry Date ☐	☐	Manufacturing Process	OTHER : _____							
Misidentified ☐	☐	Past Due								

Picklist Print

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Page 1

Work Order ID: 146305

146305

Parent Item: D412-673-011

D412-673-011

Parent Item Name: Electric Step Adaptation

Start Date: 5/17/2016

Required Date: 5/17/2016

Start Qty: 2.00

Required Qty: 2.00

Comments: IPP REV:B AS PER ECN 11-564 JLM 11-05-11 VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D2913		Manufactured	No				Each	0.0000	1	2			
D2913									**				
Doubler													
D3620-1		Manufactured	No				Each	4.0000	4	8			
D3620-1									**				
Bushing													

Location

Loc Qty

Loc Code

FP001

4

35001

3

m146221

1

ALS7-1032-130

AELS8-1032-130

Purchased

No

Each

1,320.000

AI S7-1032-130

Rivnut

Location

Loc Qty

Loc Code

FG

50

M128649

50

FP001

39

M128649

39

st549

1231

M128649

1231

AN6-53

Purchased

No

Each

3.0000

****AN6-53***

Bolt

Location

Loc Qty

Loc Code

FP001

2

128773

2

ST332

1

105289

1

Picklist Print

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Page 2

Work Order ID: 146305

146305

Parent Item: D412-673-011

D412-673-011

Parent Item Name: Electric Step Adaptation

Start Date: 5/17/2016

Required Date: 5/17/2016

Start Qty: 2.00

Required Qty: 2.00

AN310-6 Purchased No

Each 26.0000

2 4

AN310-6

Castellated Nut

**

all 16/05/12

Location

Loc Qty

Loc Code

ST331

26

114523

6

122459

20

Each

1,059.000

6 12

NAS1149D0332J

Purchased

No

NAS1149D0332.J

Washer

**

~~all 16/05/12~~

Location

Loc Qty

Loc Code

CA

6

m129682

6

FP001

1

m133988

1

ST260a

600

m134738

600

ST264

452

m134502

452

Each

866.0000

4 8

NAS1149D0663J

Purchased

No

NAS1149D0663.J

Washer

**

~~all 16/05/12~~

Location

Loc Qty

Loc Code

ST260

227

M131618

227

ST263

588

M133134

89

M133769

12

M133812

6

M134634

481

ST269

51

M126334

51

M134634x8

12

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Shop Packet Print

Page 2

Picklist Print

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Page 3

Work Order ID: 146305

146305

Parent Item: D412-673-011

D412-673-011

Parent Item Name: Electric Step Adaptation

Start Date: 5/17/2016

Required Date: 5/17/2016

Start Qty: 2.00

Required Qty: 2.00

MS21042L3

Purchased

No

Each

1,804.000

2

4

MS21042L3

Nut

**

DAS
6
9-89

DAS
26
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

FP001

100

m133790

100

GA

254

m133790

3

m134360

251

ST303

1450

m134039

12

~~m134360~~

238

m134634

600

m134754

600

MS24665-300

Purchased

No

Each

70.0000

2

4

MS24665-300

COTTER PIN

**

DAS
6
9-89

DAS
28
9-89

Location

Loc Qty

Loc Code

GA

28

118234

28

ST288

42

m134738

42

DAS
26
9-89

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Shop Packet Print

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Picklist Print

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Page 4

Work Order ID: 146305

146305

Parent Item: D412-673-011

D412-673-011

Parent Item Name: Electric Step Adaptation

Start Date: 5/17/2016

Required Date: 5/17/2016

Start Qty: 2.00

Required Qty: 2.00

MS24693-S272

Purchased

No

Each

76.0000

2 4

MS24693-S272

SCREW

**

DAS
26
9-89
8-89

Location

Loc Qty

Loc Code

CA	41	
M129682	41	
GA	4	
M126190	3	
M134738	1	
ST286	31	
M130799	31	

Each

512.0000

2 4

MS27039-1-08

Purchased

No

MS27039-1-08

Screw

**

Location

Loc Qty

Loc Code

FP001	83	
m128636	83	
GA	73	
125654	2	
m128636	71	
ST281	356	
m134502	56	
m134762	300	

DAS
26
9-89

DAS
6
9-89

DAS
28
9-89

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Page 4

Picklist Print

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Page 5

Work Order ID: 146305

146305

Parent Item: D412-673-011

D412-673-011

Parent Item Name: Electric Step Adaptation

Start Date: 5/17/2016

Required Date: 5/17/2016

Start Qty: 2.00

Required Qty: 2.00

MS27039-1-11

Purchased

No

Each

179.0000

2 4

MS27039-1-11

Screw

Location

Loc Qty

Loc Code

GA

20

125654

13

9662

7

ST280

159

124326

109

m134738

50

MS35489-35

Purchased

No

Each

23.0000

2 4

MS35489-35

Grommet

Location

Loc Qty

Loc Code

ST269

23

m127306

23

DT8393-1

Manufactured

No

Each

0.0000

1 2

DT8393-1

Tool (Drill Jig)

DT8393-3

Manufactured

No

Each

0.0000

1 2

DT8393-3

Tool (Drill Jig)

DT8393-2

Manufactured

No

Each

0.0000

2

DT8393-2

Tool (Drill Jig)

D4398-1

Manufactured

No

Each

12.0000

4 8

D4398-1

Bushing

Location

Loc Qty

Loc Code

ST095

12

114056

12

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Shop Packet Print

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DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS D412-673 REV. C

REF CANADIAN STC: SH96-88

REF FAA STC: SR00563NY

REF EASA STC: EASA.IM.R.S.01303

PURPOSE:

THE PURPOSE OF THIS SERVICE INSTRUCTION IS TO ADD 4X D4398-1 BUSHINGS TO THE D412-673-011 ELECTRIC STEP ADAPTATION KIT, TO ENSURE COMPATABILITY WITH THE OEM ELECTRIC STEP.

PARTS LIST CHANGE:

QTY. -011	PART NUMBER	DESCRIPTION
X	D412-673-011	Electric Step Adaptation Kit

4	D4398-1	Bushing
---	---------	---------

— ADD

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 11.05.03
CERT. NO.: SH96-88
ISSUE NO.: 3

20160517
SH146305

A	NEW ISSUE	AJS	11.05.03
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9556	SHEET 1 OF 2
APPROVED		TITLE	SCALE
DE APPR.		BUSHING INSTALLATION	NTS
DATE	11.05.03	COPYRIGHT © 2011 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

MODIFICATION PROCEDURE:

IT IS ACCEPTABLE TO PRESS OUT THE QTY 4 BUSHINGS LOCATED IN THE STEP ARMS (PART No. BHT 212-030-309-001 ARM OR BHT 212-030-310-001 ARM). REPLACE THE OEM BUSHINGS WITH QTY 4 D4398-1 BUSHINGS. ENSURE THAT THE SHOULDER OF THE BUSHING IS FACING OUT AS SHOWN IN FIGURE 1. AT THE INSTALLER'S DISCRETION, THE D4398-1 BUSHING MAY BE INSTALLED USING LOCTITE 601 (OR EQUIVALENT TO MIL-R-46082) APPLIED TO ALL MATING SURFACES. IN THIS CONFIGURATION, THE D4398-1 BUSHINGS REPLACE THE AN960JD616 WASHERS.

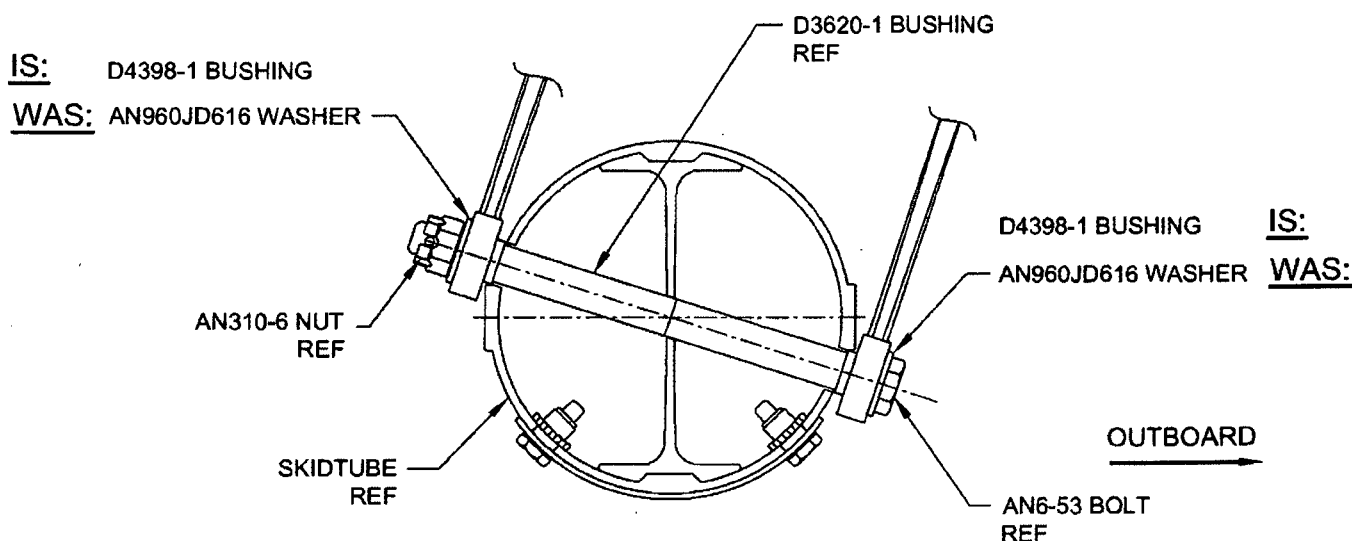


FIGURE 1: TYPICAL STEP INSTALLATION

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: *[Signature]*
D. SHEPHERD (DE # 02)

DATE: 11.05.03
CERT. NO.: SH96-88
ISSUE NO.: 3

DESIGN	AJS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9556	SHEET 2 OF 2
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	BUSHING INSTALLATION	NTS
DATE	11.05.03	COPYRIGHT © 2011 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QS1042) Approval	
Description Work Order Deviation		Disposition		Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : _____			

5.0 WEIGHT AND BALANCE

The weight added to the Skidtube by the D412-673-011 Electric Step Adaptation Kit is negligible.

6.0 PARTS LISTS

Qty -011	Part Number	Description
X	D412-673-011	Electric Step Adaptation Kit
1	D2913	Doubler
4	D3620-1	Bushing
4	ALS7-1032-130	Insert
2	AN6-53	Bolt (or AN6C53)
2	AN310-6	Castellated Nut (or AN310C6)
6	AN960JD10L	Washer
4	AN960JD616	Washer (or AN960C616)
2	MS21042L3	Nut
2	MS24665-300	Cotter Pin (or AN380C3-3)
2	MS24693S272	Screw
2	MS27039-1-08	Screw
2	MS27039-1-11	Screw
2	MS35489-35	Grommet
1*	DT8393-1	Tool
1*	DT8393-2	Tool
2*	DT8393-3	Pin

* Tools listed for reference only. Do not install.

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS D412-673 REV. C

REF CANADIAN STC: SH96-88

REF FAA STC: SR00563NY

REF EASA STC: EASA.IM.R.S.01303

DAS
28
9-89**PURPOSE:**

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PARTS LIST CHANGE:

QTY. -011	PART NUMBER	DESCRIPTION
X	D412-673-011	Electric Step Adaptation Kit

4	D4398-1	Bushing	— ADD
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CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 11.05.03
CERT. NO.: SH96-88
ISSUE NO.: 3

A	NEW ISSUE	AJS	11.05.03
REV.	DESCRIPTION	BY	DATE
DESIGN	AJS	DART AEROSPACE LTD	
DRAWN	AJS	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9556	SHEET 1 OF 2
APPROVED		TITLE	SCALE
DE APPR.		BUSHING INSTALLATION	NTS
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